

Reply to office action dated 12/15/04

AMENDMENTS TO THE CLAIMS

Claims pending at the time of the 12/15/04 Office Action:

1-26

Claims pending as a result of the present communication:

5 1-19, 21-25, and 27-29

Cancelled claims:

20 and 26

New claims:

27-29

10 Claims amended in the present communication:

1, 3, 14, 21

Please amend the claims of the present application as set forth below.

15 1. (Currently amended) A method comprising:
forming a plurality of slot portions in a substrate; and,
etching a trench in the substrate contiguous with the plurality of slot portions
to form a compound slot such that at least one reinforcement structure extends
across the compound slot.

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2. (Original) The method of claim 1, wherein said act of etching forms a

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trench having a v-shaped profile when viewed transverse a long axis of the compound slot.

3. (Currently amended) The method of claim 1, wherein said act of etching
5 forms a trench which is defined, at least in part, by a first sidewall and a second
sidewall and wherein each of the first and second sidewalls are oriented at an
angle of between 10 degrees and 80 degrees relative to ~~the~~ a first surface of the
substrate.
- 10 4. (Original) The method of claim 1, wherein said act of forming a plurality
of slot portions comprises forming a plurality of slots which extend between a
first substrate surface and a second generally opposite second substrate surface.
5. (Original) The method of claim 1, wherein said act of forming a plurality
15 of slot portions comprises forming a plurality of vias.
6. (Original) The method of claim 1, wherein said act of forming a plurality
of slot portions comprises laser machining the plurality of slot portions.
- 20 7. (Original) The method of claim 1, wherein said act of forming a plurality
of slot portions comprises etching the plurality of slot portions.

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8. (Original) The method of claim 7, wherein said act of etching comprises masking areas on a backside surface of the substrate.

5 9. (Original) The method of claim 7, wherein said act of etching comprises anisotropically etching.

10. (Original) The method of claim 7, wherein said act of etching comprises alternating acts of etching and passivating.

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11. (Original) The method of claim 1, wherein said act of etching a trench comprises exposing the substrate to an etchant sufficient to remove substrate material to form the trench while retaining at least some substrate material between individual slot portions.

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12. (Original) The method of claim 1, wherein said act of etching a trench comprises wet etching.

13. (Original) A print cartridge incorporating a substrate formed in
20 accordance with the method of claim 1.

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14. (Currently amended) A method comprising:

forming a plurality of slot portions into a first surface of a substrate wherein the substrate has a thickness defined between the first surface and a generally
5 opposing second surface; and,

exposing both the first and second surfaces of the substrate to an etchant sufficient to remove substrate material to form a compound slot while retaining substrate material comprising at least one reinforcement structure extending across the compound slot, the substrate being stronger in bending in or out of a
10 plane of at least a portion of a first surface of the substrate than if said at least one reinforcement structure were not present.

15, (Original) The method of claim 14, wherein said act of exposing forms a terminus on individual reinforcement structures and wherein the terminus is
15 defined, at least in part, by two angled walls which lie at an angle between 10 degrees and 80 degrees relative to the second surface.

16. (Original) The method of claim 14, wherein said act of forming a plurality of slot portions comprises forming a plurality of slots.

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17. (Original) The method of claim 14, wherein said act of forming a plurality of slot portions comprises forming a plurality of vias.

18. (Original) The method of claim 14, wherein said act of exposing
5 comprises exposing the substrate to isotropic etching conditions.

19. (Original) The method of claim 14 further comprising prior to said act of exposing, positioning a material over at least portions of at least one of the first and second surfaces to control the removal of substrate material as a result of
10 said act of exposing.

20. (Cancelled).

21. (Currently amended) A method comprising:
15 forming a plurality of slot portions into a first surface of a substrate wherein the substrate has a thickness defined between the first surface and a generally opposing second surface, adjacent slot portions being separated by substrate material; and,

forming a trench portion into the second surface in fluid flowing relation with
20 the slot portions, the trench portion in combination with the slot portions defining a compound slot, wherein said forming a trench portion ~~causes the~~ removes

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substrate material to define a reinforcement structure extending across the compound slot and have having a terminus proximate the second surface comprising at least two angled walls.

5 22. (Original) The method of claim 21, wherein said act of forming a trench portion causes the terminus to have four angled walls and wherein the four angled walls tend to reduce bubble accumulation in the trench portion.

23. (Original) The method of claim 21, wherein said act of forming a trench
10 portion comprises patterning the first and second surfaces and exposing the substrate to an etchant.

24. (Original) The method of claim 23, wherein said act of forming a plurality of slot portions forms slot portions having given dimensions at the first surface
15 and wherein said act of forming a trench portion does not increase the given dimensions at the first surface.

25. (Original) The method of claim 21, wherein said act of forming a plurality of slot portions forms slot portions extending through less than a majority of the
20 thickness.

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26. (Cancelled).

27. (New) A print cartridge substrate forming method, comprising

5 forming a plurality of slot portions into a first surface of a substrate wherein the substrate has a thickness defined between the first surface and a generally opposing second surface; and,

exposing both the first and second surfaces of the substrate to an etchant sufficient to remove substrate material to form a compound slot while retaining
10 substrate material comprising at least one reinforcement structure, the substrate being stronger in bending in or out of a plane of at least a portion of a first surface of the substrate than if said at least one reinforcement structure were not present.

15 28. (New) A print cartridge incorporating a substrate formed in accordance with the method of claim 27.

29. (New) A fluid-ejecting device forming method comprising:

forming a plurality of fluid-handling structures over a first surface of a
20 semiconductor substrate;

removing material from the substrate sufficient to form a plurality of slot

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portions in the substrate; and,

etching through at least some of the fluid-handling structures to form a generally elongate trench in the substrate which is in fluid-flowing relation with the plurality of slot portions.

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